

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 12127 (1987): Two-men Cross Cut Saws [PGD 6: Earth, Metal And Wood Working Hand Tools]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE



Indian Standard

SPECIFICATION FOR
TWO-MEN CROSS CUT SAWS

UDC 634.0.36 : 621.932.31

© Copyright 1988

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

*Indian Standard*SPECIFICATION FOR
TWO-MEN CROSS CUT SAWS

Forestry and Plantation Machinery Sectional Committee, AFDC 64

Chairman

SHRI R. S. MATHUR

Representing

Department of Forest, Government of Uttar Pradesh, Nainital

Members

DR K. SHAMA BHAT

Central Plantation Crops Research Institute, Kasaragod

CHIEF CONSERVATOR OF FORESTS

Forest Department, Government of Madhya Pradesh, Bhopal

SHRI O. C. DOEGAR

Onkar Chand Doegar & Company, Raipur

SHRI SUNIL DOEGAR (Alternate I)

SHRI V. L. SOOD (Alternate II)

SHRI C. S. JOSHI

Ministry of Forest & Environment, New Delhi

SHRI KRISHAN SINGH

Indian Institute of Sugarcane Research, Lucknow

SHRI R. L. YADAV (Alternate)

DR K. K. KRISHNAMOORTHY

United Planters Association of Southern India, Coonoor

MANAGING DIRECTOR

Uttar Pradesh Forest Corporation, Lucknow

MANAGING DIRECTOR

Orissa Forest Development Corporation, Cuttack

SHRI R. K. NAMDEO

Logging Development Division of Forest Research Institute and Colleges, Dehra Dun

TRANSPORTATION OFFICER (Alternate)

DR T. P. OJHA

Central Institute of Agricultural Engineering (ICAR), Bhopal

DR V. V. SINGH (Alternate I)

SHRI K. C. BHARADWAJ (Alternate II)

SHRI S. N. SHARMA

Office of the Development Commissioner, Small Scale Industries (Ministry of Industry), New Delhi

SHRI M. L. THAKUR

Anil Steel & Industries Limited, Jaipur

SHRI N. K. GOSWAMI (Alternate)

SHRI S. VENUGOPAL

Office of the Conservation of Forests Research and Utilization Circle, Government of Karnataka, Bangalore

(Continued on page 2)

© Copyright 1988

BUREAU OF INDIAN STANDARDS

This publication is protected under the *Indian Copyright Act* (XIV of 1957) and reproduction in whole or in part by any means except with written permission of the publisher shall be deemed to be an infringement of copyright under the said Act.

(*Continued from page 1*)

Members

SHRI A. R. WANI

SHRI T. PURNANANDAM,
Director (Agri & Food)

Representing

Jammu & Kashmir State Forest Corporation,
Srinagar

Director General, BIS (*Ex-officio Member*)

Secretary

SHRI K. ANBARASU
Deputy Director (Agri & Food), BIS

Indian Standard

SPECIFICATION FOR TWO-MEN CROSS CUT SAWS

0. FOREWORD

0.1 This Indian Standard was adopted by the Bureau of Indian Standards on 1 September 1987, after the draft finalized by the Forestry and Plantation Machinery Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 Two-men cross cut saws are used for cutting wet and dry wood, felling and bucking of trees of diameter over 200 mm. Considering the acceptability of these types of saws, this standard has been formulated. While preparing this standard the prevailing manufacturing practices has been duly considered.

0.3 In the preparation of this standard assistance has been derived from Logging Development Division of Forest Research Institute & College, Dehra Dun.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard specifies the material, dimension, construction and other requirements of cross cut saws intended for use by two persons for felling and bucking of trees of diameter over 200 mm.

2. TYPES

2.1 Cross cut saws shall be of two types depending upon the tooth pattern:

- a) *Type A* — Peg toothed saw (see Fig. 1), and
- b) *Type B* — Raker toothed saw (see Fig. 2).

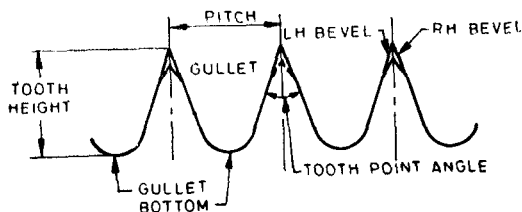


FIG. 1 PEG TOOTHING WITH DESCRIPTIVE TERMS

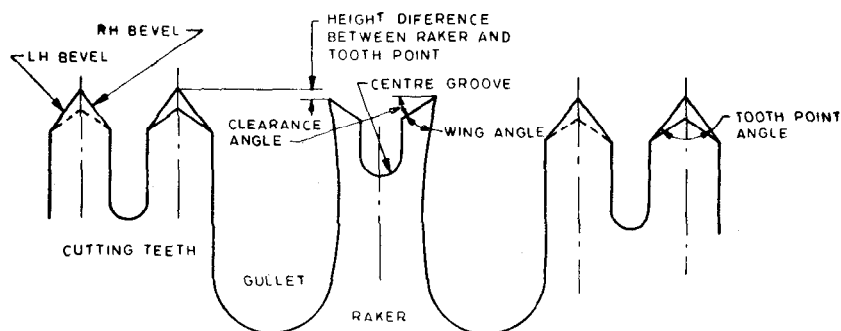


FIG. 2 RAKER TOOTHING WITH DESCRIPTIVE TERMS

3. TERMINOLOGY

3.0 For the purpose of this standard the following definitions shall apply.

3.1 Handle — The component used to grip and operate the saw.

3.2 Hollow Back — The concave side opposite to the tooth line (*see* Fig. 3).

3.3 Setting — Bending upper two-third part of alternate cutting teeth in opposite direction (*see* Fig. 4).

3.4 Sharpening — Filing of the cutting teeth at an angle (*see* bevel in Fig. 1 and 2).

3.5 Taper Grinding — Uniform reduction in thickness on both sides of saws from tooth base line to the back line (*see* Fig. 5).

3.6 Tensioning — Stressing a saw to make it stiff and less flabby.

3.7 Tooth Line — The line joining the tips of cutting teeth before setting (*see* Fig. 3).

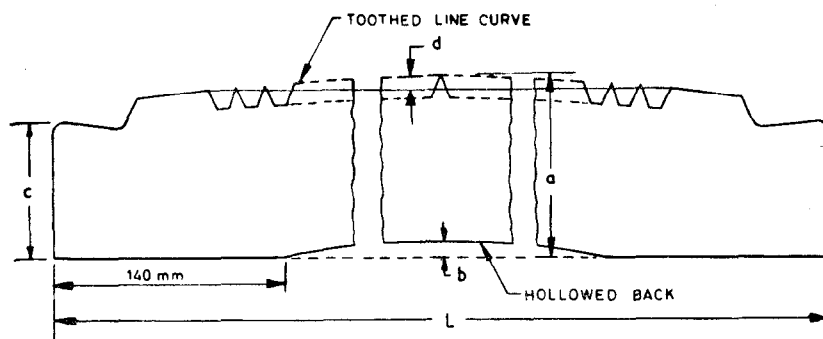


FIG. 3 OVERALL DIMENSIONAL DETAILS OF CROSS CUT SAW

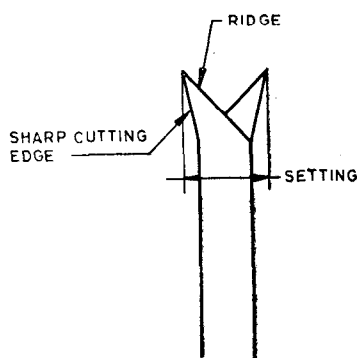


FIG. 4 DETAILS SHOWING SETTING

4. MATERIAL OF CONSTRUCTION

4.1 The saw blade shall be made of hardened and tempered steel strips conforming to Grade 6 of designation 80C6 of IS : 2507-1975*.

4.1.1 The chemical composition of the material is:

Carbon	0.75 to 0.90 percent
Silicon	0.35 percent, <i>Max</i>
Manganese	0.65 to 0.90 percent
Sulphur and phosphorous	0.05 percent, <i>Max</i>

*Specification for rolled steel strips for springs (*first revision*).

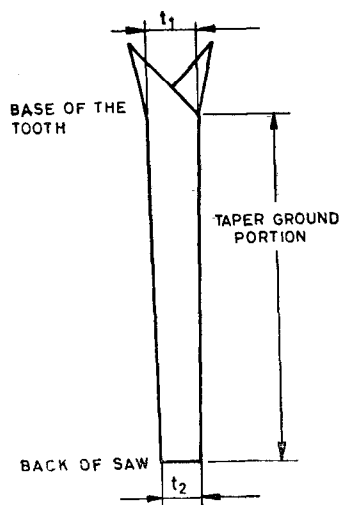


FIG. 5 TAPER GRINDING ($t_1 - t_2$)

4.1.2 The hardness of the saw blade shall be 46 ± 2 HRC.

4.2 The surface of the saw blade shall be ground finished and shall be free from scratches, laminations, slivers, burrs and other defects detrimental to the use as a saw.

5. DIMENSIONS

5.1 The overall dimensions of the saw shall be as given in Table 1 when read in conjunction with Fig. 3.

5.1.1 The tolerances for the dimensions shall be as follows:

L	± 5 mm
a	± 2 mm
b	
c	
d	
t_1	± 0.1 mm with a minimum taper of 0.3
t_2	

5.2 Tooth Pattern — The saw shall be supplied with any of the following two tooth patterns.

TABLE 1 OVERALL DIMENSIONS OF CROSS CUT SAWS

(Clause 5.1; and Fig. 3)

All dimensions in millimetres.

Sl No.	LENGTH	CENTRE WIDTH WITHOUT HOL- LOW BACK	HOLLOW WIDTH	END WIDTH	DIMENSION INDICATING TOOTH LINE CURVATURE	THICKNESS	
						Front	Back
	<i>L</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>t</i> ₁	<i>t</i> ₂
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
i)	1 300	140	20	80	40	1·6	1·2
ii)	1 300	140	20	80	40	2·0	1·6
iii)	1 500	140	20	80	45	2·0	1·6
iv)	1 800	140	20	80	50	2·0	1·6
v)	2 400	160	25	90	60	2·4	2·0
vi)	3 000	180	30	100	60	2·4	2·0

7

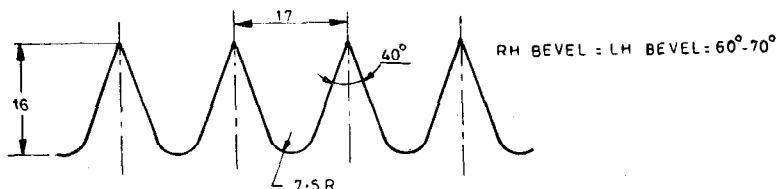
5.2.1 Peg Toothed Pattern — The shape and dimensions of the peg toothed pattern shall be as given in Fig. 6.

5.2.2 Raker Toothed Patterns — The shape and dimensions of raker toothed pattern shall be as given in Fig. 7.

5.3 The shape and dimensions of the saw end shall be as given in Fig. 8.

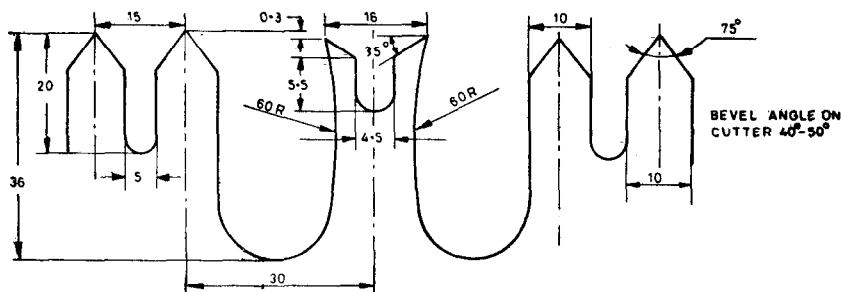
5.4 The saw shall be supplied taper ground (see Fig. 3 and 5.1.1).

5.5 The saw shall be hollowed back (see Fig. 3).



All dimensions in millimetres.

FIG. 6 DIMENSIONAL DETAILS OF PEG TOOTH



All dimensions in millimetres.

FIG. 7 DIMENSIONAL DETAILS OF RAKER TOOTH PATTERN

6. GENERAL REQUIREMENTS

6.1 The saw shall be supplied with radial tooth line (see Fig. 3).

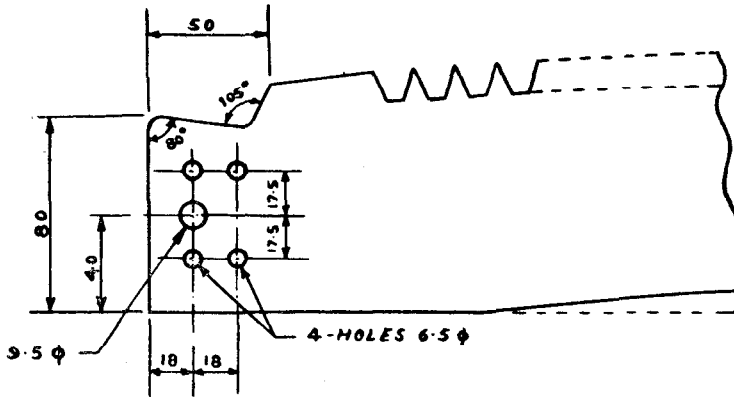
6.2 Teeth — The teeth shall be evenly formed and shall have tooth angles as given in Fig. 6 and 7. The tooth line curvature shall be as per the dimensions d given in Table 1. The teeth shall be alternately set on either side of the blade at the option of the purchaser.

NOTE 1 — If setting is done, approximately 6 mm of each tooth measured from the tip point shall be set and the method of setting shall be such that the remainder of the tooth shall not be deformed. The setting shall be 0.3 mm or as specified by the purchaser. The degree of set on each side shall be equal.

NOTE 2 — Both bevel angle shall be maintained as given in Fig. 6 and 7.

NOTE 3 — In case of raker toothed saw, the raker shall be lower than the cutter (see d in Fig. 10) as specified by the purchaser.

NOTE 4 — Saw shall be supplied set and sharpened at the option of the purchaser.



All dimensions in millimetres.

FIG. 8 END DETAILS OF CROSS CUT SAW

6.3 The saw blade shall be supplied with or without tensioning at the option of the purchaser.

6.4 The cross cut saw shall be supplied with or without handle at the option of the purchaser. When supplied with the handle, the handle shall be as per IS : 12128-1987*.

6.5 The saw blade shall be delivered with a wooden blade guard at the option of the purchaser.

7. WORKMANSHIP AND FINISH

7.1 The cross cut saw shall be smooth, rust free, untwisted, free from burrs at teeth gullets, edges and sawback.

8. DESIGNATION

8.1 Cross cut saws of type A of nominal size 1 300 mm, front thickness 1.6 mm and untensioned shall be designated as:

Type A 1 300 1.6 untensioned IS : 12127

9. STORING AND PACKING

9.1 Each saw shall be fully coated with rust proof grease/compound.

9.2 Packing of saws shall be as agreed between the purchaser and the manufacturer.

*Specification for reversible handles for cross cut saws.

10. MARKING

10.1 Each saw shall be marked with the following details on one of its ends:

- a) Manufacturer's name or trade-mark, if any;
- b) Year of manufacture;
- c) Type;
- d) Nominal size;
- e) Tensioned or untensioned; and
- f) Batch or code number.

10.2 The saw may also be marked with the Standard Mark.

NOTE — The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act, 1986 and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions, under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

11. SAMPLING

11.1 Unless otherwise agreed to between the manufacturer and the purchaser, the sampling plans and criteria for conformity shall be in accordance with IS : 2500 (Part 1)-1973*.

11.2 For dimensions, workmanship and finish and hardness a sampling plan with inspection level I and AQL 6.5 percent as given in Tables 1 and 2 of IS : 2500 (Part 1)-1973* shall be followed.

*Specification for sampling inspection tables: Part 1 Inspection by attributes and by count of defects (*first revision*).